REMARKS

The Examiner has, once again, rejected claims 22-30, 32, 34-35 and 37-40 under 35 USC § 103(a) as being unpatentable over British Publication 1,257,827 in view of Kroeker et al., U.S. Patent No. 4,969,643. In order to more particularly define the invention for which protection is sought, applicant has amended the claims now pending in the above-identified application. It is now believed that the claims clearly define over the cited references, and reconsideration of the Examiner's rejection under 35 USC § 103(a) is respectfully requested in view of the following comments.

Claim 22 as amended defines a dampening cylinder having a cylindrical housing, a piston slidably extending through a cavity in the housing and a flange projecting from the piston so as to divide the cavity in the housing into first and second portions. A flow conduit has a first end communicating with the first portion of the cavity and a second end communicating with the second portion of the cavity. The flow conduit includes first and second control valves for controlling the flow of fluid between the first and second portions of the cavity. Each flow control valve includes a flow regulator having a plurality of user selectable discrete settings for controlling the flow rate at which the fluid flows between the first and second portions of the cavity and for providing a discrete metered fluid flow through a corresponding flow control valve. More specifically, due to the placement of the flow control valves in the flow conduit, the first and second control valves control the fluid flow rate into the adjacent first portion and second portion, respectively. The location of the first and second flow control valves immediately upstream of the portions that receive the fluid passing through the respective control valves enables the control valves to precisely and accurately control the amount of fluid flowing through each flow control valve into the adjacent portion of the cavity in the cylinder housing. As hereinafter described, neither of the cited references shows or suggests a dampening cylinder wherein flow regulators control the rate of fluid flowing between the first adjacent and second portions of the cavity in the housing. Consequently, it is believed that independent claim 22

defines over the cited references.

The British '827 publication discloses a device for balancing the forces inertia of reciprocating stands of cold rolling mills. As best seen in Figures 2 and 3, an air cylinder is provided having a piston slidably received therein which defines first and second working spaces in the cylinder. The work spaces are interconnected by a conduit that includes first and second maximum pressure valve and a bypass valve. With regard to the first and second maximum pressure valves, each of these valves is operable to allow fluid flowing from the working space adjacent the valve into the opposite working space, which is opposite to the arrangement of claim 22. In doing so, the first and second maximum pressure valves each operate in conjunction with a check valve located downstream of each first and second maximum pressure valve to control the flow of the fluid pass the pressure valves into the working spaces within the cylinder. Based on the use of both the first and second maximum pressure valves and the associated downstream check valves, the British '827 publication does not disclose a valve system in which the amount of fluid flowing into the proper working space can be discretely metered into the working space as required by claim 22. This is because the presence of the check valve downstream of the maximum pressure valve negates any ability of the pressure valves to closely control the flow of the fluid into the working space. The check valve is biased to the closed position only by the presence of the spring associated therewith. This spring exerts a constant force on the stop of the check valve to keep the valve closed. When this force is overcome by the pressure of the fluid exerting a greater force in a direction opposite the spring force, the check valve is opened. Once the check valve is opened, all fluid that was initially metered by the maximum pressure valve, passes the check valve and enters the working space. This check valve fluid flow is controlled by the spring, which cannot be manually or otherwise controlled in any manner to meter or alter the fluid flow past the check valve into the working space. Therefore, the valve structure shown in the British '827 publication provides no mechanism for closely controlling the rate of air flow through the conduit interconnecting the first and second work spaces and providing a discrete metered fluid flow thereto.

The Kroeker et al., '643 patent cannot remedy this deficiency of the disclosure of the British '827 publication. The Kroecker et al., '643 patent is directed to an improved exercise apparatus. The exercise apparatus includes a hydraulic cylinder having a piston passing therethrough. A ring or collar about the piston separates the interior of the cylinder to the first and second portions. Outlet lines are connected to each portion of the cylinder and includes fluid control means for constricting the flow of fluid from each portion of the cylinder. In addition, the hydraulic cylinder includes first and second inlet lines operatively connected to a reservoir. Each portion of the cylinder draws fluid from the reservoir in response to a suction generated by operation of the hydraulic cylinder. However, unlike the dampening cylinder of independent claim 22, the fluid does not flow between the first and second portions of the cylinder. Further, unlike the dampening cylinder of independent claim 22 that requires the flow regulators to control the flow rate of fluid flowing between the first and second portions of the cavity in the housing of the cylinder, the flow regulators disclosed in the Kroecker et al., '643 patent merely controls the rate at which the fluid exits the corresponding portions of the interior of the cylinder thereof. The flow regulators cannot control the flow rate of the fluid flowing between the first and second portions of the interior of the cylinder, as required by independent claim 22, since all of the fluid exiting the first and second portions of the interior of the cylinder is deposited in a reservoir.

In view of the foregoing, it is believed that neither of the cited references shows or suggests a dampening cylinder as defined in independent claim 22 of the present application. As such, it is believed that independent claim 22 is in proper form for allowance and such action is earnestly solicited.

Claims 23-29 depend either directly or indirectly from independent claim 22 and further define a dampening device not shown or suggested in the prior art. It is believed that claims 23-29 are allowable as depending from an allowable base claim and in view of the subject matter of each claim.

Claim 30 defines a dampening cylinder incorporating a cylindrical housing and a piston slidable through the housing. The housing includes first and second openings therein. The first conduit has the first end connected to the first opening in the housing for communicating with the first portion of the cavity in the housing and a second conduit having a first end connected to the second opening in the housing for communicating with the second portion of the cavity in the housing. A control valve structure is disposed between the first and second conduits to control the flow of fluid between the first and second portions of the cavity in the housing. The control valve structure includes first and second flow control valves in series between the first and second conduits. The first flow control valve includes a flow regulator having a plurality of user selectable settings and is movable into the first flow path. The flow regulator provides a discrete metered fluid flow through the first flow path and controls the flow rate of the fluid flowing from the second portion into the first portion of the cavity in the housing. The second flow control valve includes a flow regulator having a plurality of user selected settings and is movable into the first flow path of the second flow control valve. The flow regulator provides a discrete metered fluid flow through the first flow path in controls the flow rate of the fluid flowing from the first portion into the second portion of the cavity in the housing.

As heretofore described with respect to independent claim 22, neither of the cited references shows or suggests a dampening cylinder that incorporates flow regulators to control the flow of fluid between the first and second portions of the cavity in the housing of the dampening cylinder in which the fluid entering the first and second portions is controlled by the first and second flow control valves, respectively, as required by claim 30. Hence, it is believed that independent claim 30 defines over the cited references and passage to allowance is respectfully requested.

Claims 32, 34-35 and 37 depend either directly or indirectly from independent claim 30 and further define a dampening cylinder not shown or suggested in the prior art. It is believed

that such claims are allowable as depending from an allowable base claim and in view of the subject matter of each claim.

Similar to claim 30, claims 38 and 40 define a dampening cylinder that incorporates first and second flow regulators that control the flow rate of fluid flowing between the first and second portions of the cavity of the housing in the cylinder, respectively. As heretofore described, neither of the cited references show or suggest such a structure. As a result, it is believed that independent claims 38 and 40 define over the cited references and passage to allowance is respectfully requested.

Claim 39 depends either directly or indirectly from independent claim 38 and further defines a dampening cylinder not shown or suggested in the prior art. It is believed that claim 39 is allowable as depending from an allowable base claim and in view of the subject matter of each claim.

Applicant believes that the present application with claims 22-30, 32, 34-35, and 37-40 is in proper form for allowance and such action is earnestly solicited.

The Applicant believes there are no fees associated with this transmission. However, the Commissioner is hereby authorized to charge payment of any fee associated with this or any other communication or credit any overpayment to Deposit Account No. 50-1170.

Respectfully submitted,

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